The Easy Assessment Manual

January 2000

Table of Contents

The Easy Assessment Manual

Visit our Website at
http://www.fetc.doe.gov/products/watershed/waternet

The Easy Assessment Manual
ACKNOWLEDGEMENTS

This Manual was prepared by:

Greg Adolfson
West Virginia Division of Environmental Protection
Office of Abandoned Mine Lands and Reclamation
Stream Restoration Group

Gary Berti
Canaan Valley Institute
Circuit Rider

Teresa M. Byler
West Virginia Soil Conservation Agency
Water Quality Coordinator

Alvan Gale
West Virginia Division of Environmental Protection
Office of Water Resources
Save Our Streams Program

Emily Grafton
Canaan Valley Institute
Circuit Rider

Jennifer Pauer
Division of Environmental Protection
Stream Partners Program

Pamela Russell
Resource Management Training Center
West Virginia Soil Conservation Agency

TEAM

THE EASY ASSESSMENT METHOD

You and your neighbors have formed a watershed association and are well on your way toward identifying environmental problems and developing a watershed improvement plan. Perhaps the quality of the water in your stream has been degraded, and the water no longer supports fish or is safe for fishing, swimming or canoeing. There may be excessive silt in the stream, excessive flooding, bad odors coming from the water or perhaps your stream is in great condition or you do not know.

However, before you begin your long-term stewardship plans for improving the health of your watershed, you must first gain a thorough knowledge of the physical condition of the streams in your watershed. It is important that the members of your community gain as much information as they can about the subtle characteristics and events impacting your stream. Gathering this kind of information does not require an exhaustive scientific study.

The significant factors affecting the health of a stream can be identified through simple observations and by making careful documentation of those observations.

This assessment tool has been named The Easy Assessment Method (TEAM) for several reasons. The program has been designed to provide people with an easy to follow step-by-step procedure.

The primary purpose is to provide a tool for gathering important data about the general physical conditions of a stream system and the environmental problems impacting the stream channel and stream banks.

Conducting a simple stream-walk is the major activity required to complete the survey. All that is needed is a commitment from you, a few tools; packet of data sheets and maps, and a short training course.

By completing *The Easy Assessment Method* for the streams within your watershed, critical baseline data can be gathered that will provide a blueprint you can work from. The benefits are to:

- Gain a comprehensive knowledge of the streams you are trying to protect.
- Generate a list of problems.
- Identify patterns of degradation.
- Determine the severity of the problem.
- Assess in-stream and riparian zones.
- Compare the health of different stream segments.
- Determine where more intensive chemical or biological monitoring is needed.
- Identify restoration efforts required to improve stream quality.
- Prioritize restoration projects

Team divides the stream, into segments. A team of two to three people can complete the survey over three to four miles in a day. A team needs the following tools to complete the survey:

1. Clipboards
2. Pencils to take notes
3. USGS topographical maps of stream segments
4. 100 ft. tape measure
5. Cameras
6. Film
7. Packet of data sheets (sufficient copies: 25-50)
8. Water
9. First-Aid Kits
1. Permission from landowners. (This may be achieved through letters sent by you informing your community that you will be in their area on the date you chose and what you will be doing, or you may want to inform them door-to-door.)
2. Markers to identify sites.

The entire stream will be divided into segments. Maps of those segments need to be prepared for recording the location of potential problems seen. The problems that you will be looking for include:

- Channelization
- Erosion
- Encroachment
- In or near stream construction
- Exposed pipe
- Pipe outfall
- Fish barrier
- Unusual conditions
- Trash dumping

A definition of each of these problems is provided.

A data sheet for each potential problem has been designed to give you quick and yet thorough format for recording your observations. Each data sheet has a corresponding cover sheet providing background information on what to look for and instructions on how to fill out the form.

TEAM SURVEY PROCEDURES

I. Before you start:

A. Get Permission From the Landowner's
Before you go on a person's land, you need to have permission. Get it before you venture on their land.

B. Have Enough Data Sheets Ready
Don't need more when you are miles from the copier.

C. Get your Watershed Maps
You will need maps, so before you get out in the field, you need to find your topographic maps. 'Topo' maps are available from outdoor stores, government agencies, bookstores or other sources. The best maps are the 1:24,000 scale (1 inch equals 2000 ft). For TEAM purposes, this is too small. The 'topo' must be blown up to 1 inch equals 50 the minimum and 1" equal 200' is optimal. Kinko's or other copying firms can make these sizes for a small fee. Once made, you should make copies for your records and for subsequent survey.

D. Number your Maps
You will need to label your maps to be able to refer back to those spots where you observe something. Maps should be numbered from the top of the watershed down. For example, the first map on the

mainstem should be map number one (001) the next, number two (002). Tributaries, if you decide to survey them could be numbered 101 for the first, 201 for the second and so on.

E. Make Sure your Camera Has Film and is in Working Order

If you find something needing work, a picture will help resource agencies to understand the problem and find the exact site.

F. Get a weather forecast and dress accordingly

Don't get cold and wet.

II. In the Field

A. Fill out the Header Information Sheet

Each team should fill out the header information sheet for each day of surveying. The header information gives the data for the weather conditions, team members and the maps each team covered on the day. A description space is provided for a short description of the maps, if needed.

B. Start Walking and Observing

Start either at the top, bottom, left or right on the maps walk down or upstream. In other words, it doesn't matter where you start, just be consistent in your method. The numbering of the sites you identify will depend on the direction traveled, so it is important to maintain consistency.

C. Document your Observations

Using the appropriate problem identification form,

1) Fill out the information using your judgment;
2) Mark your location on the map using an arrow to the point on the stream and identifying the spot with a site number. Site numbers are consecutive for each map segment. So, with the map number and the site number, each observation is uniquely identifiable.
3) Write down, on the form, the site number and map number.
4) Either before or after you photograph the site, note the number of the picture from the film on the form. At this point, the picture can be tied to the description, the description to the map, and the picture to the map.
5) If, at any point, you feel like you would like to comment on something you see, there is a comment form that also identifies the site and map. You can use as much space as you need, but be concise.

III. After you Return

A. Arrange your data sheets

Each team should have a Header Form, problem identification forms, and optionally, a comment sheet. These need to be organized by team and header sheet, especially where multiple teams have been surveying.

B. Label your film

This should be done whenever the film is changed, but at least it needs to be labeled before the processing.

C. Enter the data

Team Survey
Header Information

Stream Name:
_____

Date:
_____

Weather Conditions:

Today:
_____

Previous 48 Hours:
_____
_____
_____
_____
_____
_____
_____

Quad. Name:
_____

Maps Covering Today's Effort:

Team Members:
_____
_____
_____
_____
_____
_____
_____

Channelization

One of the most prevalent causes of stream distress in WV is caused by channelization.

Channelization is the artificial creation of a stream channel in a place where it wasn't. The effects of channelization are subtle in some cases. In others it can be devastating. Many flood work projects in WV result in channelization. The prevailing thought of many people is if you can move the water from your property faster, then you will not be as vulnerable to flooding in the future. Usually by straightening the stream, making it wider and creating a trapezoidal channel, the work is performed. While the intention is good, the results are not.

By straightening the channel, the slope of the channel is increased, the speed of the water increases, and the force of the water increases causing damages below the work site.

Making a channel wider may increase the capacity to transport more water during flood flows, but is terrible for aquatic life during normal flows when the depth of the stream is lower. Most widening efforts are short lived as well. The stream will deposit sediment where the flow is slower causing a new channel to form within the widened channel. Maintenance costs are extremely high to keep the widened section's ability to carry the designed capacity. After each storm event the channel capacity is diminished and maintenance must be performed.

Trapezoidal channels are expensive to build. Most have 'armoring' to protect the streambanks from eroding and usually rip-rap is used to protect the sides. Other methods of armoring include concrete, stone, brick, lumber and, even in some places, automobiles (or what's left of them). Most of these structures do not provide adequate cover and streamside vegetation to support the stream-life that should be taking root in or near the stream.

Another form of channelization seen in some of the more developed areas is the 'buried stream'. People, who would like to look at lawn, or build over the stream, may have built a culvert to transport the water through their property.

As you observe the stream, channelization will be evident where it occurs. You should estimate the length and width of the channel, measure its depth, and identify the 'armor' that protects it, if any.

* Glossary

BOTTOM WIDTH	Bottom width of stream or channel
LENGTH	Length of stream affected by rip-rap, gabions, or other substance, or length of man-made earth channel
GABION	A wire mesh cage, usually rectangular, filled with rock and used to protect stream channel banks and other sloping areas from erosion.
RIP-RAP	Rock, cobbles or boulders placed on the stream bank and other sloping areas to protect these areas from erosion or the action of water.
EARTH CHANNEL	A ditch or channel excavated by man for the flow of water.

Site: ____ ____ Map: ____ ____ Photo: _____ CH

Date __ __ / __ __ / __ __ Team _____

Channelization

Type:

- ð Concrete
- ð * Gabion
- ð * Rip – Rap
- ð * Earth Channel
- ð Cars
- ð Tires
- ð Other _____

*Bottom Width: _____in

*Length: _____ ft

Is sediment deposition occurring in the channel?

- ð Yes
- ð No

Is vegetation growing in the channel?

- ð Yes
- ð No

Looking downstream:
Is erosion occurring?

- ð Left Bank
- ð Right Bank

Is channel part of a road crossing?

- ð No
- ð Above
- ð Below
- ð Both

Channelized length above road crossing _____ft

Channelized length below road crossing _____ ft.

Severity

Minor Severe
1 2 3 4 5

Unknown (-1)

Correctability

Minor Severe
1 2 3 4 5

Unknown (-1)

Access

Minor Severe
1 2 3 4 5

Unknown (-1)

Erosion

Erosion is naturally occurring in all streams. However, when the effect of manmade changes accelerates erosion, the affect can be disastrous. Streams try to find a balance between the sediment created by the erosive process and the stream's ability to carry that sediment away. When manmade changes affect this balance, erosion occurs. You will see erosion in the outside bends of streams, where obstructions occur and near manmade structures such as channel projects, bridges, culverts and road crossings, among others. Streamside grazing of livestock can also initiate erosion.

Erosion should be recorded when the ground is bare with no vegetation on it. Serious erosion could cause loss of property as the ground eats away causing loss of foundation for buildings, fencing or roadways.

When noting erosion problems, the size of the erosion site should be estimated. The height, width and depth of the ground loss are important to determine the extent of the problem. You should identify any at-risk property near the site, of extreme importance are any homes which may be at risk.

Sedimentation

One of the problems of erosion is sedimentation. As soils are washed into the stream it deposits on the streambed and can cause several problems for the aquatic life and flow patterns of the stream. As deposition of sediment occurs, it can cause mid-stream sediment bars to form or it will deposit on one side or the other of the stream. As the water hits this new impediment the course of the water may change and cause additional erosion on the banks. This process is repeated down stream and can eventually have great impacts on the stream course and streamside areas. Aquatic life such as bugs and fishes use the spaces between the rocks and cobbles to live and reproduce. As these spaces fill with sediment, the places for these animals are reduced. The impact on the aquatic life is great when they have no place to hide, reproduce and feed.

Sediment can be seen behind obstructions such as rocks and logs. Description of sediment should include an assessment of the size of the sediment particles. Sometimes it will be fine like baby powder, or it can be as large as boulders in fast moving water.

* Glossary

DOWNCUTTING	Erosion of the streambank that is cutting downward or deepening the channel.
PIPE OUTFALL	The point, location or structure where wastewater or drainage discharges to a receiving body of water.

Site: ____ ____ Map: ____ ____ Photo: _____ E S

Date __ __ / __ __ / __ __ Team _____

Erosion Site

*** Downcutting**
Cause:
- ð Bend at steep slope
- ð ***** Pipe outfall
- ð Below channelization
- ð Below road crossing
- ð Livestock
- ð Natural
- ð Other _____

Widening
Cause:
- ð Bend at steep slope
- ð Pipe outfall
- ð Below channelization
- ð Below road crossing
- ð Livestock
- ð Natural
- ð Other _____

Length: _____ft.

Average exposed bank height:
_____ ft.

Present Land Use **RIGHT SIDE**
Looking downstream:
- ð Crop field
- ð Pasture
- ð Lawn
- ð Paved
- ð Shrubs and Small Trees
- ð Forest
- ð Multiflora Rose

Other _____

Present Land Use **LEFT SIDE**
Looking downstream:
- ð Crop field
- ð Pasture
- ð Lawn
- ð Paved
- ð Shrubs and Small Trees
- ð Forest
- ð Multiflora Rose

Other _____

Severity

Minor 1 2 3 4 5 Severe

Unknown (-1)

Correctability

Minor 1 2 3 4 5 Severe

Unknown (-1)

Access

Minor 1 2 3 4 5 Severe

Unknown (-1

*See Glossary

Encroachment
Existing Structures in or Near the Stream

Encroachment is the intrusion of structures/buildings, roads, porches into the immediate flood plain / area adjacent to the stream or in the stream

Landowners and developers frequently build buildings and roads very close to or in streams for a multitude of purposes. These purposes can include a lack of available space between the stream and a road or the stream and a hill, or the desire to expand one's property. This type of development can be damaging to streams and the structures by reducing the available space for the stream to move during its natural process of meandering and absorbing high water events.

Streams, which are allowed to meander without intrusion by man, can better withstand and remain healthy during a variety of flow levels. Where man interferes with this process, excessive erosion can occur causing problems for those who live downstream and the aquatic life, which live in the stream. In addition, encroachment can result in more damage to buildings and culverts from floodwaters.

When looking for encroachment, you will be noting any structures or roads that are influencing the stream flow.

EC

Site: ____ ____ Map: ____ ____ Photo: _____

Date __ __ / __ __ / __ __ Team _____

Existing structures or roads in or near the stream

Encroachment

Type of Activity:

- ð Road
- ð Road crossing
- ð Culverts
- ð Residential development
- ð Industrial development
- ð Buffers
- ð Other _____

Length of area affected: _____ ft.

Distance from stream: _____ ft.

Is there stream bank erosion occurring near the site?

- ð Yes
- ð No

In or Near Stream Construction

Active land disturbances, such as construction which includes earth moving or the movement of soil in or near the stream, pose a severe threat to the health of those streams.

In-stream activities disturb both the stream banks and streambed, disrupting aquatic life and increasing turbidity by stirring sediment. There is also the potential of fluids leaking from equipment and polluting the stream.

Earth disturbance activities, such as construction, near the stream (in the riparian zone) pose the largest threat when rainfall washes soil into the stream increasing turbidity and sedimentation. Again, sedimentation affects aquatic life by reducing spawning areas and dwelling spaces, decreasing oxygen levels and killing the critters, decreasing species diversity, and possibly introducing toxic chemicals into the stream.

Appropriate best management practices can be used during construction to minimize the impacts on water quality. These practices can include silt fence, straw bales, revegetating and mulching, sediment ponds, and various other measures to either keep the soil in place on the land, or at least prevent the soil that moves from entering the stream.

In the event, that you see an active construction site where soil is entering the waterway, contact your WV Division of Environmental Protection – Environmental Enforcement Officer immediately and notify him or her of the problem and location.

Site: ____ ____ Map: ____ ____ Photo: _____ **IC**

Date __ __ / __ __ / __ __ Team _____

In or Near Stream Construction

Type of activity:

- ð Road
- ð Road crossing
- ð Utility
- ð Logging
- ð Bank stabilization
- ð Residential development
- ð Industrial development
- ð Other _____

Are their sediment control measures in place
(i.e. Silt fence, sediment ponds, hay bales etc.)?

- ð Yes
- ð No

Is there sediment entering the stream?

- ð Yes
- ð No

Length of disturbed area: _____ ft.

Company doing construction: _____

Location _____

Severity

Minor				Severe
1	2	3	**4***	**5***

Unknown (-1)

***** Contact the Division of Forestry for any logging concerns. For all other areas contact WV Division of Environmental Protection as soon as possible.

EXPOSED PIPES

A major portion of the infrastructure of our society is the network of pipes carrying drinking water, natural gas, stormwater runoff and sewage. These pipes are laid in the ground connecting homes and industries to and from water treatment plants, wastewater treatment plants or natural gas pumping stations. These pipes are often laid in the ground under or across streams and rivers.

If you see pipes of any length, width, or composition exposed in or near your stream, you want to record the location of those pipes. If a given exposed pipe is observed to be crossing the stream, denote the length of the exposed portion of the pipe and its diameter. The same applies to any pipes running parallel to the stream channel along the stream bank. Look closely to see if a given pipe shows any signs of fracture, or has any apparent discharge leaking from a fracture or natural joint.

Try to determine what kind of material the pipe is carrying. Small diameter pipes of just a few inches, frequently, carry natural gas, though some main-line natural gas pipes can be a foot or two in diameter. If you detect any odor or hissing sounds coming from the pipe, make a note. If you have concerns about a possible natural gas leak, notify your local gas company immediately. Larger-diameter pipes often carry stormwater runoff or sewage. You can check with your local Public Service District to get a map of existing pipes and manholes. Be sure to check the area around the pipes for odors and check the appropriate box. Also, if you detect a leak from the pipe, check the color and odor of the *effluent and the color and odor of the stream water below the pipes.

* Glossary

EFFLUENT Wastewater, either treated or untreated that is discharged into the environment.

CORRUGATED METAL PIPE / CULVERT A metal pipe which has a ridged or furrowed surface.

EP

Site: ____ ____ Map: ____ ____ Photo: _____

Date __ __ / __ __ / __ __ Team _____

Exposed Pipe

Pipe Is:

- ð Exposed across bottom of stream
- ð Exposed along stream bank
- ð Exposed manhole
- ð Other _____

Type of Pipe:

- ð Concrete
- ð Smooth Metal
- ð * Corrugated Metal
- ð Plastic
- ð Other _____

Pipe Diameter: _____ in.

Length Exposed: _____ ft.

Purpose of pipe:

- ð Sewage
- ð Water Supply
- ð Stormwater
- ð Unknown
- ð Other _____

*See Glossary

Evidence of Discharge? ð Yes ð No

Color:	Odor:
ð Clear	ð Sewage
ð Medium brown	ð Oily
ð Dark brown	ð Musty
ð Green brown	ð Fishy
ð Yellow brown	ð Rotten eggs
ð Green	ð Chlorine
ð Other _____	ð None
	ð Other _____

Severity

Minor 1 2 3 4 5 Severe

Unknown (-1)

Correctability

Minor 1 2 3 4 5 Severe

Unknown (-1)

Access

Minor 1 2 3 4 5 Severe

Unknown (-1)

PIPE OUTFALL

In 1977, the Clean Water Act was authorized, making it illegal to discharge pollutants directly into a surface body of water without a *National Pollution Discharge Elimination System* permit. Certain standards have been set for the amount of a given pollutant that can be discharged into a stream in order to minimize the impacts to stream health. Prior to the passage of the Act, millions of homes and businesses sent their wastewater through pipes directly into streams. Since that time, many communities, individual homeowners and businesses have not been able to afford the installation of wastewater treatment facilities and thus straight pipe their sewage into streams.

Any open-ended pipe extending from the streambank, is more than likely disposing of some sort of wastewater, or toxic substance into the stream. These pipes may carry sewage from a septic tank or other sources. They may carry discharges from a small industrial site, agricultural site or carry stormwater runoff. It may be fairly easy to distinguish what kind of * effluent is emitted from the pipe. Observe the color. Check the odor of the water coming from the pipe, or in the stream below the outfall point. In many cases, you can determine the source of the pipe by simply looking in the direction from which it is coming. Sometimes a little investigation will need to be done to check the source of the pipe.

Pipes that carry stormwater runoff should not be considered harmless. We have come to understand that rainwater flowing across lawns and city streets can pick up trace amounts of pesticides, herbicides, petroleum residues from vehicles and many other * non-point sources of pollution. The combined flow from several communities can add considerable amounts of toxins into our streams. This is why it is important to identify and monitor all outflow pipes.

* Glossary

EFFLUENT Wastewater, either treated or untreated that is discharged into the environment.

NONPOINT SOURCE POLLUTION Pollution that enters a water body from diffuse origins in the watershed. Contamination that occurs when rainwater or snowmelt washes over the land, picking up soil particles and pollutants which either infiltrate into groundwater or run off into streams and rivers.

STORMWATER Rainwater that runs over streets, parking lots and the land in general into storm drains. This water is then conveyed, by pipe, to the river or stream as a discharge.

SEWAGE OVERFLOW Typically, the same outfall or pipe that transports stormwater, also transports sewage overflow. Sewage overflow occurs when more water is routed into a town or city's municipal waste treatment plant than that plant can handle. The overflow bypasses the treatment process and is discharged directly into the stream. This usually only occurs during or right after a storm.

INDUSTRIAL A pipe that discharges treated wastewater from an industrial source such as a chemical or manufacturing plant.

*See Glossary

Site: ____ ____ Map: ____ ____ Photo: _____ P O

Date __ __ / __ __ / __ __ Team _____

Pipe Outfall

Type of Outfall:

- ð * Stormwater
- ð * Sewage overflow
- ð * Industrial
- ð Pumping station
- ð Agriculture

Other _____

Type of Pipe:

- ð Earth channel
- ð Concrete channel
- ð Concrete pipe
- ð Smooth metal pipe
- ð Corrugated metal
- ð Plastic

Other _____

Location (facing downstream):

- ð Left bank
- ð Right bank
- ð Head of stream

Other _____

* See Glossary

Pipe diameter: _____ in.

Channel width: _____in.

Purpose of pipe:

- ð Sewage
- ð Water supply
- ð Stormwater
- ð Unknown

Other_____

Evidence of discharge

ð Yes ð No

Color:

- ð Clear
- ð Medium
- ð Brown
- ð Dark brown
- ð Green brown
- ð Yellow brown
- ð Green

Other_____

Odor:

- ð Sewage
- ð Oily
- ð Musty
- ð Fishy
- ð Rotten eggs
- ð Chlorine
- ð None

Other _____

Severity

Minor 1 2 3 4 5 Severe

Unknown (-1)

Correctability

Minor 1 2 3 4 5 Severe

Unknown (-1)

Access

Minor 1 2 3 4 5 Severe

Unknown (-1)

Fish Barrier

Fish move throughout the stream for various reasons: for food, spawning, escaping predators and avoiding stressful conditions. Restricting the ability of fish to move makes them vulnerable to predation or pollution or interrupts an important part of their life cycle. Barriers to fish movement can also prevent re-colonization of an area after something has killed off the fish that had existed there before.

Most of the barrier types are fairly obvious, however the "road crossing" type would usually refer to low water bridges. These bridges can act as dams on the upstream side and like waterfalls on the downstream side.

Glossary

WATER DROP A direct vertical drop from a water fall or a culvert. A drop of a foot or more should be enough to prevent most fish from travelling upstream. However during high water this drop will be reduced or disappear.

TOO HIGH If something blocking the stream is high enough or wide enough to prevent fish from jumping over it.

TOO SHALLOW A low water condition where fish must stay in isolated pools and any flow between the pools is too low to allow fish to swim.

TOO FAST A high water condition where the current is too swift and there is inadequate cover on the bottom to break up the current and allow fish to move along the bottom. This is typically seen where the streambed is bedrock and the stream gradient and water levels are high.

Site: ____ ____ Map: ____ ____ Photo: _____ F B

Date __ __ / __ __ / __ __ Team _____

Fish Barrier

Fish Blockage:

- ð Total
- ð Partial
- ð Temporary
- ð Unknown

Type of Barrier

- ð Dam
- ð Road crossing
- ð Pipe crossing
- ð Natural falls
- ð Beaver dam
- ð Channelized
- ð Instream pond
- ð Other_____

Blockage because:

- ð * Too high
- ð * Too shallow
- ð * Too fast

* Water drop:
_____inches (if too high)

Water depth:
_____inches (if too shallow)

Severity

Minor 1 2 3 4 Severe 5

Unknown (-1)

Correctability

Minor 1 2 3 4 Severe 5

Unknown (-1)

Accessibility

Good 1 2 3 4 Poor 5

Unknown (-1)

*See Glossary

Inadequate Buffer

The area immediately surrounding a stream is called the riparian zone. This is an important zone for the health of the stream. Leaves and other plant debris provide nutrients and habitat for stream life. Trees provide shade, which is important for temperature control. Another important role this zone plays, if the vegetation is relatively undisturbed, it to act as a buffer to filter runoff from the land before it enters the stream.

Characteristics of an adequate buffer are: the vegetation is undisturbed by grazing, mowing, construction, logging or other activities for at least 40 feet, 60 feet or more is considered optimal, and the trees are mature enough to provide shade.

Land uses include human activities and natural or seminatural land cover types along the stream at the station.

Determining correctability will depend on how permanent the disturbance to the buffer zone is. For example, if the zone is mowed then to stop mowing is an easy correction. However, if there is a building or parking lot or some kind of permanent structure then it is uncorrectable.

Site: ____ ____ Map: ____ ____ Photo: _____ **I B**

Date __ __ / __ __ / __ __ Team _____

Inadequate Buffer

Looking down stream:
Buffer inadequate on
- ð Left
- ð Right
- ð Both

Is stream unshaded?
- ð Left
- ð Right
- ð Both

Present land use **Right** side:
- ð Residential
- ð Recreational
- ð Urban
- ð Industrial
- ð Agricultural
  - ð Pasture
  - ð Crop Field
  - ð Feed lots
- ð Forest
- ð Grassland
- ð Wetland
- ð Lawn
- ð Paved
- ð Shrubs and small trees
- ð Other _____

Buffer width left side: _____ft.

Buffer length left side: _____ ft.

Buffer width right side: ____ ft.

Buffer length right side: ____ ft.

Present land use **Left** side:
- ð Residential
- ð Recreational
- ð Urban
- ð Industrial
- ð Agricultural
  - ð Pasture
  - ð Crop Field
  - ð Feed lots
- ð Forest
- ð Grassland
- ð Wetland
- ð Lawn
- ð Paved
- ð Shrubs and small trees
- ð Other _____

Land Ownership:
- ð Public
- ð Private
- ð Unknown

If public, name:
_____

Severity

Minor Severe

1 2 3 4 5

Unknown (-1)

Correctibility

Minor Severe

1 2 3 4 5

Unknown (-1)

Access

Minor Severe

1 2 3 4 5

Unknown (-1)

Wetland Potential

Best Worse

1 2 3 4 5

Unknown (-1)

(Good wetland potential = low slope, low bank height)

Unusual Conditions

GLOSSARY

SCUM	Any floating or submerged substance that is not algae.
UNNATURAL FOAM	Floating substance that is solid white or greater than 3 inches high or that has an unnatural or sewage odor.
EXCESSIVE ALGAE	Algae that forms a thick coat (1/2 inch or more) covering rocks and stream bed and/or is hairy strands that "flow" with the current.
WATER COLOR	If there is a color to the water check the box and then describe, below, the color.
WATER CLARITY	If the water is not crystal clear, check the box and then describe, below, whether it is "murky" (can still be seen through but not clearly) or "turbid" (can not be seen through at all).
RED FLOCK	A red or orange precipitate or discoloration of the rocks in the stream.
SEWAGE DISCHARGE	Check the box if you see straight sewer pipes from residences, discharge pipes from a sewage treatment plant or seepage from the ground from failing septic systems. Then describe, below, what you see.
OIL	Appears as a multi-colored sheen on the surface of the water.

Site: ____ ____ Map: ____ ____ Photo: _____ U C

Date __ __ / __ __ / __ __ Team _____

Unusual Condition

Type:

ð * Odor
- ð Sewage
- ð Septic
- ð Fishy

ð * Scum
ð * Unnatural Foam
ð * Excessive algae
ð * Water color
ð * Water clarity
ð * Red flock
ð * Sewage discharge
ð * Oil
Other _____

Describe: _____

_____

_____

_____

_____

_____

Potential Cause: _____

_____

_____

_____

_____

Severity

Minor 1 2 3 4 5 Severe

Unknown (-1)

Correctability

Minor 1 2 3 4 5 Severe

Unknown (-1)

Access

Minor 1 2 3 4 5 Severe

Unknown

*See Glossary

Site: ____ ____ Map: ____ ____ Photo: _____ T D

Date __ __ / __ __ / __ __ Team _____

Trash Dumping

Type of trash:

ð Residential
ð White goods
ð Furniture
ð Litter
ð Industrial
ð Yard waste
ð Floatables
ð Tires
ð Construction
ð
Other: _____

Amount of trash:_____ pick-up truck loads

Other measure _____

Is trash confined to:

ð Single site
ð Large area

Possible cleanup site of volunteers?
ð Yes
ð No

Land Ownership:

ð Public
ð Private
ð Unknown

If public, name:_____

Severity

Minor Severe
1 2 3 4 5
Unknown (-1)

Correctability

Minor Severe
1 2 3 4 5

Unknown (-1)

Access

Minor Severe
1 2 3 4 5

Unknown (-1)

Team Survey

Additional Comments

Stream Name: _____

Date: _____

Site #	Map #	Init.	Comments:
_____	_____	____	_____
			_____
_____	_____	____	_____
			_____
_____	_____	____	_____
			_____
_____	_____	____	_____
			_____
_____	_____	____	_____
			_____

Filename:	TEAMmanuel
Directory:	G:\STREAMS\JENNIFER\TEAM
Template:	C:\WINDOWS\Application Data\Microsoft\Templates\Normal.dot
Title:	TEAM
Subject:	
Author:	WVSCA
Keywords:	
Comments:	
Creation Date:	03/09/2000 3:55 PM
Change Number:	3
Last Saved On:	03/10/2000 10:07 AM
Last Saved By:	Dee Liegey
Total Editing Time:	112 Minutes
Last Printed On:	03/10/2000 10:17 AM

As of Last Complete Printing

Number of Pages:	27
Number of Words:	5,176 (approx.)
Number of Characters:	29,507 (approx.)